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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte MOLIAN DENG and ROBIN L. STAUB

Appeal 2008-5017
Application 09/920,953
Technology Center 1600

Decided: December 9, 2008

Before ERIC GRIMES, RICHARD M. LEBOVITZ, and MELANIE L. McCOLLUM, *Administrative Patent Judges*.

McCOLLUM, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a nucleic acid molecule and a transformed cell. The Examiner has rejected the claims as lacking utility and being nonenabled. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Claims 1-4 and 6-15 are pending and on appeal. The claims have not been argued separately and therefore stand or fall together. 37 C.F.R. § 41.37(c)(1)(vii). We will focus on claim 1, which reads as follows:

> 1. An isolated nucleic acid molecule comprising a nucleotide sequence of SEQ ID NO: 2 or complement thereof.

Claims 1-4 and 6-15 stand rejected under 35 U.S.C. § 101 for lacking patentable utility (Ans. 3). The Examiner finds that the "instant application does not disclose a specific, substantial, and credible utility for SEQ ID NO: 2 or for any polypeptide that is encoded by SEQ ID NO: 2" (*id.*). In particular, the Examiner finds that "Table 1 shows that SEQ ID NO: 2 encodes a polypeptide that is 81% identical to the 60S ribosomal protein L10 of *Solanum melongena*," but that "a patentable utility is not readily apparent to one of skill in the art based upon the disclosure in the instant application and what was known in the art as of the effective filing date of the instant claims" (*id.* at 3-4).

Claims 1-4 and 6-15 also stand rejected under 35 U.S.C. § 112, first paragraph, "as failing to comply with the enablement requirement" (*id.* at 4). The Examiner finds that, "[s]ince the claimed invention lacks utility under 35 U.S.C. § 101, the instant application does not teach how to use the invention" (*id.*).

Appellants contend that the "specification provides a specific, substantial, and well-established utility for . . . the nucleic acid sequence of SEQ ID NO: 2 . . . and transformed cells comprising SEQ ID NO: 2" (App. Br. 4). In particular, Appellants contend that they

> have provided a statistically significant correlation between the nucleic acid sequence of SEQ ID NO: 2 and a known protein. The utility of the known protein is well-established and the correlation between the known protein and SEQ ID NO: 2 is specific. In setting forth a reasonable correlation between the known protein and the claimed nucleic acid sequence of SEQ ID NO: 2, Appellants have demonstrated that the claimed invention has patentable utility.

(*Id.*)

ISSUE

Did the Examiner err in finding that the Specification does not disclose a specific and substantial utility for the claimed nucleic acid molecules?

FINDINGS OF FACT

1. The Specification discloses "nucleic acid sequences from the unicellular green algae, *Chlorella sarokiniana*" (Spec. 1).

2. In particular, the Specification discloses 9395 nucleic acid sequences from *Chlorella sarokiniana* cDNA libraries (*id.* at 1-3).

3. Specification "Table 1 sets forth a list of nucleic acid molecules that encode *Chlorella sarokiniana* proteins or fragments thereof which are homologues of known proteins" (*id.* at 9).

4. Specification Table 1 refers to a clone identified as LIB3602-006-Q1-K1-B6 (*id.* at 69).

5. Specification Table 1 indicates that, using BLASTX, Clone LIB3602-006-Q1-K1-B6 encodes a polypeptide having 81% identity with at least a portion of the 60S Ribosomal Protein L10 of *Solanum melongena* (*id.* at 69 and 261).

6. Clone LIB3602-006-Q1-K1-B6 is indicated to have the sequence identified as SEQ ID NO: 2 in the Sequence Listing[1] (*id.*).

7. Specification Table 1 also indicates that the nucleic acids represented by SEQ ID NOs 1 to 41 each encodes a polypeptide having at least 50% identity with at least a portion of the 60S Ribosomal Protein L10 of *Solanum melongena* (*id.* at 69-71).

ANALYSIS

Section 101 requires a utility that is both substantial and specific. A substantial utility requires "show[ing] that an invention is useful to the public as disclosed in its current form, not that it may prove useful at some future date after further research. Simply put, to satisfy the 'substantial' utility requirement, an asserted use must show that that claimed invention has a significant and presently available benefit to the public." *In re Fisher*, 421 F.3d 1365, 1371 (Fed. Cir. 2005). A specific utility is "a use which is not so vague as to be meaningless." *Id.* In other words, "in addition to providing a 'substantial' utility, an asserted use must also show that [the] claimed invention can be used to provide a well-defined and particular benefit to the public." *Id.*

Appellants argue that the "specification clearly discloses that SEQ ID NO: 2 can be used to encode a 60S Ribosomal Protein L10 or fragment

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[1] According to the Sequence Listing, SEQ ID NO: 2 relates to Clone ID: LIB3602-001-P1-K6-A10, not LIB3602-006-Q1-K1-B6. Thus, it is not clear whether the sequence identification numbering in Table 1 is consistent with the numbering in the Sequence Listing. However, for the purpose of this appeal, we are assuming that the SEQ ID NO: 2 recited in the claims refers to the sequence of Clone LIB3602-006-Q1-K1-B6 identified as having SEQ ID NO: 2 in Table 1.

thereof" (App. Br. 4). Based on the Specification, Appellants argue that "one of ordinary skill in the art would readily recognize that the claimed nucleic acid molecules and cells have utility, for example, to encode a 60S Ribosomal Protein L10" (*id.* at 4-5).

We are not persuaded. The Specification discloses that SEQ ID NO: 2 encodes a polypeptide having 81% identity with a 60S Ribosomal Protein L10 or a fragment thereof (Findings of Fact (FF) 5-6). However, even assuming that SEQ ID NO: 2 could be used to encode a 60S Ribosomal Protein L10 or fragment thereof, Appellants have not shown why encoding this protein or fragment provides "a significant and presently available benefit to the public."

Appellants also argue that "the specification provides for the use of the nucleic acid molecules . . . in identifying polymorphisms related to 60S Ribosomal Protein L10"; "in transforming plants to modify the expression of 60S Ribosomal Protein L10"; and "in determining the level or pattern of expression of the 60S Ribosomal Protein L10 or mRNA associated with that 60S Ribosomal Protein L10 nucleic acid molecule, for example in a cell" (App. Br. 7).

We are not persuaded. With regard to identifying polymorphisms, Appellants have not presented any evidence showing that the claimed EST has been used to identify a single polymorphism and have "not shown that a polymorphism . . . so identified would have a 'specific and substantial' use." *Fisher*, 421 F.3d at 1373. Thus, we agree that this use merely represents a hypothetical possibility. In addition, even assuming that SEQ ID NO: 2 encodes a 60S Ribosomal Protein L10 or fragment thereof, Appellants have

not shown that there is "a significant and presently available benefit to the public" in transforming plants to modify the expression of this polypeptide or in determining the level or pattern of expression of this polypeptide or its corresponding mRNA.

In addition, Appellants argue that "the utility of SEQ ID NO: 2 is *well-established* because 60S Ribosomal Protein L10 is a well-known, established protein" (App. Br. 7). The Examiner agrees that "60S Ribosomal Protein L10s have been known in microorganism for at least thirty years" (Ans. 7). However, we agree with the Examiner that the fact that a protein family is known is insufficient by itself to show that proteins of this family, and therefore nucleic acids encoding proteins of this family, provide "a significant and presently available benefit to the public."

CONCLUSION

Appellants have not shown that the Examiner erred in finding that the Specification does not disclose a specific and substantial utility for the claimed nucleic acid molecules. We therefore affirm the rejections of claims 1-4 and 6-15 under 35 U.S.C. § 101 and § 112, first paragraph.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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